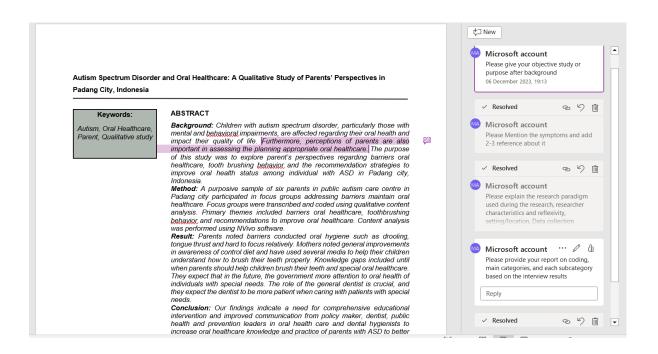


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Autism Spectrum Disorder and Oral Healthcare: A Qualitative Study of Parents' Perspectives in Padang City, Indonesia

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ABSTRACT

Background: Children with autism spectrum disorder, particularly those with mental and behavioral impairments, are affected regarding their oral health and impact their quality of life. Furthermore, perceptions of parents are also important in assessing the planning appropriate oral healthcare.

Methods: A snow ball sample of six parents in public autism care centre in Padang city participated in focus groups addressing barriers maintain oral healthcare. Focus groups were transcribed and coded using qualitative content analysis. Primary themes included barriers oral healthcare, tooth brushing behavior and recommendations to improve oral healthcare. Content analysis was performed using NVivo software.

Results: Parents noted barriers conducted oral hygiene such as drooling, tongue thrust and hard to focus relatively. Mothers noted general improvements in awareness of control diet and have used several media to help their children understand how to brush their teeth properly. Knowledge gaps included until when parents should help children brush their teeth and special oral healthcare. They expect that in the future, the government more attention to oral health of individuals with special needs. The role of the general dentist is crucial, and they expect the dentist to be more patient when caring with patients with special needs.

Conclusion: Our findings indicate a need for comprehensive educational intervention and improved communication from policy maker, dentist, public health and prevention leaders in oral health care and dental hygienists to increase oral healthcare knowledge and practice of parents with ASD to better quality of life.

BACKGROUND

Autism Spectrum Disorder (ASD) have quite high prevalence, found 1:50 in school age children ¹. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria of people with ASD have communication deficits, may be overly dependent on routines, highly sensitive to changes in their environment, or intensely focused on inappropriate items. Several ASD individuals showing mild symptoms and others have severe symptoms. The symptoms of ASD show from early childhood².

Individuals with ASD who have mental and behavioral impairments similarly impact their oral health. In general, individual with ASD significantly poorer oral hygiene and gingival condition than healthy³. However, the most prevalent oral health problems are caries^{4,5} and periodontal disease⁶. Suhaib's study shows greater caries

among ASD people than their siblings⁷. In contrast, another study show ASD children had fewer caries experiences than general health children⁸. Periodontal disease reported a high prevalence⁹, one study indicates the prevalence of caries among ASD children was 69.4% ¹⁰.

The oral health condition is made worse with a bad dietary habit, less frequency of tooth brushing and need assistance for tooth brushing. The high rate of sweets intake causes greater caries as well as ASD people. Most ASD children less frequent brushing of teeth in the mornings⁶ and used toothpaste¹¹. In individuals with ASD could fail to do adequate teeth brushing independently be present main risk factor increase caries⁷.

Individuals with ASD experience significantly more health problems than the general population. An exploration the causes of oral healthcare problems and how to improve oral health status among children with ASD based on parent's perspectives is important to determine the proper oral health promotion. This qualitative study explores barriers oral healthcare, tooth brushing behavior and the recommendation strategies to improve oral health status among individual with ASD in Padang city, Indonesia.

MATERIALS AND METHODS

This study utilized qualitative approach with focus group discussion to explore parent's perspectives regarding oral healthcare, tooth brushing behavior and the recommendation strategies to improve oral health status among individual with ASD in Padang city, Indonesia. Semi-structured focus groups were conducted to engage participants in in-depth discussion of their perceptions, knowledge, and habits

The study received ethical approval from the Andalas University of Padang, (No. 014/KEP/FK/2019). Written informed consent was obtained from the parents who were willing to join this study. The ASD parents recruited a purposive sample of 6 mothers of ASD children in the Autism Care Centre of Padang city to participate in semi-structured focus group. The focus group discussions took approximately 60 minutes.

The responses of participants to focus group questions were categorized in accordance with the focus group interview guide. Using codes, emergent themes within the data were found. Each topic generated thematic categories, and all participant replies were considered thematic elements. The frequency of comments citing a given thematic element was used to determine the themes. NVivo 12. Ink (Windows), a computerized qualitative informatics application, was used to conduct content analysis.

RESULTS

The study consisted of a set of semi-structured interviews with 6 ASD mothers were conducted to explore the Parents' perspectives regarding barriers oral healthcare, tooth brushing behavior and the recommendation strategies to improve oral health status among individual with ASD in Padang city, Indonesia. Parents with ASD children talked special needs children difficult to brush their teeth properly due to some reasons involved drooling, tongue thrust and hard to focus relatively. One participant explained, "Brushing too hard due to loss of sensibility around the lips and face, and trouble swallowing are typical symptoms of drooling. Also, tongue thrust habit". Another participant noted, "My child appear erratic in their ability to follow directions".

ASD parents have a high awareness of controlled diet or food consumption due to their children sensitive while consumed gluten. Therefore, their parent carefully with their children food consumed. One of them said, "I conducted eliminating gluten, sugar, and other potentially allergenic foods".

Most ASD parents have limitation knowledge regarding how to maintain oral hygiene specifically for children with autism and need to improve. The following statement illustrates this, "Twice a day, in the morning and evening did toothbrushing, I have limitation knowledge regarding tooth brushing properly for children with autism". The parents accompanied their children to brush their teeth and demonstrated how to tooth brushing properly and did at least twice a day, in the morning and evening or before sleep. ASD parents tried to use several media to help their children understand how to brush their teeth properly with video and pictures, but unsuccessful.

Several ASD parents accompanied children with autism to visit the dentist in emergency conditions only when their children were painful. The reasons were their children difficult open mouth and no complaint with their teeth.

"Once, my child difficult opens her mouth"

"Never, because no complaints of pain teeth"

Parents are dissatisfied with present oral health policies for children with special needs. They propose a combined oral health teaching and practice approach for individuals with special needs. The program would benefit from engaging media education. They also propose educating those parents with special needs on how to enhance oral hygiene properly. They expect that in the future, the policy maker, dentist, public health and prevention leaders in oral health care and dental hygienists more attention to oral health of individuals with special needs. In addition, they expect the dentist to be more patient when caring with patients with special needs.

"Unsatisfied. It should be more community educative program especially in children with special needs because parents still lack knowledge about oral health. Please, policy maker provide public counseling and education related oral health of children with autism"

"Not yet satisfied and not all dentists are patient with Autism children. To open the mouth of an Autism child is not easy"

DISCUSSION

ASD parent talked special needs children difficult to brush their teeth properly due to some reasons involved drooling, tongue thrust and hard to focus relatively. Similarly, El Khatib et al (2014) study showed children with ASD more uncooperative behavior than healthy children ¹². Oral sensitivity was substantially related to home toothbrushing participation ¹³. Previous study showed seventy-nine percent of parents did not feel adequately informed about the various oral hygiene prevention techniques for their ASD children and desired education on the daily management of oral hygiene ¹⁴. The parents understand the contributions of enhanced dexterity to their child's oral health for increased opportunities for their child to learn about becoming more independent ¹⁵. The awareness produce creativity such as modifications handle length and size of toothbrush ¹⁶. In addition, tooth brushing methods that have been proven effective in reducing plaque in children with special needs such as horizontal toothbrush method and the fones can be taught to parents or carers of children with special needs ¹⁷.

The case-control study's result that ASD children's sugar intake is comparable to that of general children is encouraging. Although caries history and caries status were comparable in children with and without ASD, 67.6% of children with ASD had caries¹⁸. This should be cause for concern, especially considering how difficult it is to treat children with ASD with dental care. Most special need children never visited a dentist. The majority of special needs children reported visit dental professional rarely¹⁹. These problems caused by negative behavior of special needs patient, lack of the dentist's knowledge and skill regarding special need dentistry, difficulty access to the dental clinic, inflexible admission procedures and financial problem²⁰⁻²². The dentist should improve special skills involved in behavior management and treating children with special needs care. Professional collaboration necessary proactive to educate and train parents/caregiver maintains their child oral hygiene properly.

Overall, oral health status among individuals with ASD in Padang city has worse problems. Several factors were found to have played a prominent role in oral health status children with ASD. There is a significant relationship between age, education and economic status of mothers with caries status in children with special needs based on the results of research at one of the special schools in Semarang²³. The primary aspects of dental management include educating patients on dental health, providing preventive dental care, and conducting regular follow-up appointments after dental treatment²⁴. Dental health preventive approach such as use fluoride in toothpaste above 1000 ppm helps to remineralize the tooth²⁵. Fluoride water and fluoride salt can be a useful oral health policy for government to support. In addition, toothpaste, vanish and pit and fissure sealant are also very important in preventive dentistry.

Parents expect for future, government and related professional have attention to general health and dental health individuals with special needs. The parents also need oral health education for ASD children. General dentist role is very important, they expect the dentist more patient when handling special needs people. Health policies regarding special needs dentistry very needed and hope existence special need dentist in Indonesia.

CONCLUSION

The application of qualitative research techniques allowed us to understand the oral healthcare experiences of parent with ASD children and explore the barriers maintain oral healthcare, toothbrushing behavior and recommendations to improve oral healthcare. It is essential that dental professionals understand parents' experiences to enable them to have a positive influence on their behavior and provide oral healthcare plans for children with ASD. In addition, policy maker, dentist, public health and prevention leaders in oral health care and dental hygienists important to support awareness, knowledge and practice oral healthcare especially among parents with ASD children.

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